Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L2	7	"20040068760" or "20020142397"	US-PGPUB; USPAT; EPO; DERWENT	OR	OFF	2005/01/07 10:26
L3	5	"20040068760" or "20020142397" and strptolysin	US-PGPUB; USPAT; EPO; DERWENT	OR	OFF	2005/01/07 10:27
L4	6	"20040068760" or "20020142397" and streptolysin	US-PGPUB; USPAT; EPO; DERWENT	OR	OFF	2005/01/07 10:27
L5	6	"20040068760" or "20020142397" and (streptolysin adj1 O)	US-PGPUB; USPAT; EPO; DERWENT	OR	OFF	2005/01/07 10:51
L6	1	fetus and "20020142397" and (streptolysin adj1 O)	US-PGPUB; USPAT; EPO; DERWENT	OR	OFF	2005/01/07 11:01
L7	2	"20020001842"	US-PGPUB; USPAT; EPO; DERWENT	OR	OFF	2005/01/07 11:02
L8	0	"20020001842" and streptolysin	US-PGPUB; USPAT; EPO; DERWENT	OR	OFF	2005/01/07 11:33
L9	0	"6211429.pn"	US-PGPUB; USPAT; EPO; DERWENT	OR	OFF	2005/01/07 11:33
L10	0	"6211429.pn."	US-PGPUB; USPAT; EPO; DERWENT	OR	OFF	2005/01/07 11:34
L11	2	"6211429".pn.	US-PGPUB; USPAT; EPO; DERWENT	OR	OFF	2005/01/07 11:34

30. The cell of claim 27, wherein said cell is a fetal fibroblast or a B-cell.

31. The cell of claim 27, wherein said ungulate is a bovine, ovine, porcine, or caprine.

32. A hybridoma formed from the fusion of the B-cell of claim 25 or 30 with a myeloma cell.

33. A method of producing antibodies, said method comprising the steps of:

(a) administering one or more antigens of interest to an ungulate comprising nucleic acid encoding a xenogenous antibody gene locus, wherein the nucleic acid segments in said gene locus undergo rearrangement resulting in the production of antibody proteins specific for said antigen; and

(b) recovering said antibodies from said ungulate.

34. The method of claim 33, wherein said ungulate comprises a mutation that reduces the expression of an endogenous antibody, wherein said mutation comprises an insertion of a transcription termination sequence into an endogenous immunoglobulin nucleic acid.

35. The method of claim 34 wherein a transcription termination sequence is inserted downstream of the initial ATG codon in exon 2 of an endogenous mu heavy chain nucleic acid.

36. The method of claim 33, wherein said nucleic acid is contained in a chromosome fragment.

37. The method of claim 33, wherein said nucleic acid is a human nucleic acid.

38. The method of claim 33, wherein said ungulate is a bovine, ovine, porcine, or caprine.

39. A method of producing antibodies, said method comprising recovering xenogenous antibodies from an ungulate comprising nucleic acid encoding a xenogenous antibody gene locus, wherein the nucleic acid segments in said gene locus undergo rearrangement resulting in the production of one or more xenogenous antibody proteins.

40. The method of claim 39, wherein said ungulate comprises a mutation that reduces the expression of an endogenous antibody, wherein said mutation comprises an insertion of a transcription termination sequence into an endogenous immunoglobulin nucleic acid.

41. The method of claim 39, wherein said nucleic acid is contained in a chromosome fragment.

42. The method of claim 39, wherein said ungulate is a bovine, ovine, porcine, or caprine.

43. A method for producing a transgenic ungulate, said method comprising the steps of:

(a) incubating a permeabilized cell of claim 22 in a reprogramming media under conditions that allow the removal of a factor from a nucleus, chromatin mass, or chromosome of said permeabilized cell or the addition of a factor from said reprogramming media to said nucleus, chromatin mass, or chromosome, thereby forming a reprogrammed cell;

(b) inserting said reprogrammed cell into a nucleated or enucleated oocyte, thereby forming a nuclear transfer oocyte; and

(c) transferring said nuclear transfer oocyte or an embryo formed from said nuclear transfer oocyte into the uterus of a host ungulate under conditions that allow said nuclear transfer oocyte or said embryo to develop into a fetus.

44. The method of claim 43, wherein said reprogramming media is a cell extract.

45. The method of claim 43, wherein the nucleus of said permeabilized cell remains membrane-bounded and the chromatin in said nucleus does not condense during incubation in said reprogramming media.

46. The method of claim 43, wherein a chromatin mass is formed from incubation of said permeabilized cell in said reprogramming media.

47. The method of claim 43, wherein said reprogrammed cell is incubated under conditions that allow the membrane of said reprogrammed cell to reseal.

48. The method of claim 43, wherein said reprogrammed cell is purified from said reprogramming media prior to insertion into said nuclear transfer oocyte.

49. The method of claim 43, wherein said fetus develops into a viable offspring.

50. The method of claim 49, further comprising mating said offspring with a transgenic ungulate comprising a mutation in an endogenous immunoglobulin nucleic acid, wherein said mutation comprises an insertion of a transcription termination sequence into an endogenous immunoglobulin nucleic acid.

51. The method of claim 43, wherein said nuclear transfer oocyte from step (b) is cultured under conditions that allow cell division and one of the resulting cells is recloned one or more times.

52. The method of claim 43, wherein said permeabilized cell and said nuclear transfer oocyte are from the same species.

53. A method for producing a transgenic ungulate, said method comprising the steps of:

(a) contacting a donor nucleus from a cell of claim 22 with a reprogramming media under conditions that allow formation of a chromatin mass;

(b) inserting said chromatin mass into an oocyte, thereby forming a nuclear transfer oocyte; and

(c) transferring said nuclear transfer oocyte or an embryo formed from said nuclear transfer oocyte into the uterus of a host ungulate under conditions that allow said nuclear transfer oocyte or said embryo to develop into a fetus.

54. The method of claim 53, wherein said chromatin mass is formed without DNA replication.

55. The method of claim 53, wherein reprogramming media is a mitotic extract, detergent and salt solution, a detergent solution, a salt solution, or protein kinase solution.

56. The method of claim 53, wherein said chromatin mass from step (a) is purified from said extract prior to insertion into said nuclear transfer oocyte.

57. The method of claim 53, wherein said fetus develops into a viable offspring.

58. The method of claim 53, wherein said nuclear transfer oocyte from step (b) is cultured under conditions that allow cell division and one of the resulting cells is reCloned one or more times.

59. The method of claim 53, wherein said donor nucleus and said nuclear transfer oocyte are from the same species.

60. The method of claim 53, wherein said donor nucleus is diploid.

61. The method of claim 43 or 53, wherein said donor nucleus is from a fibroblast, epithelial cell, neural cell, epidermal cell, keratinocyte, hematopoictic cell, melano-

[0209] Collectively, these data indicate that NIH3T3 cells exposed to an embryonic stem cell extract acquire an embryonic stem cell phenotype, express Oct4 ,and express alkaline phosphatase.

[0210] Other Embodiments

[0211] From the foregoing description, it will be apparent that variations and modifications may be made to the invention described herein to adopt it to various usages and conditions. Such embodiments are also within the scope of the following claims.

[0212] All publications mentioned in this specification are herein incorporated by reference to the same extent as if each independent publication or patent application was specifically and individually indicated to be incorporated by reference.

What is claimed is:

1. A method of reprogramming a cell, said method comprising the steps of:

(a) incubating a nucleus from a donor cell with a reprogramming media under conditions that allow the removal of a factor from said nucleus or the addition of a factor from said reprogramming media to said nucleus; and

(b) inserting said nucleus or a chromatin mass formed from said nucleus into a recipient cell or cytoplast, thereby forming a reprogrammed cell.

2. A method of reprogramming a cell, said method comprising the steps of:

(a) incubating a chromatin mass from a donor cell with a reprogramming media under conditions that allow the removal of a factor from said chromatin mass or the addition of a factor from said reprogramming media to said chromatin mass; and

(b) inserting said chromatin mass or a nucleus formed from said chromatin mass into a recipient cell or cytoplast, thereby forming a reprogrammed cell.

3. A method of reprogramming a cell, said method comprising incubating a permeabilized cell with a reprogramming media under conditions that allow the removal of a factor from the nucleus or chromatin mass of said permeabilized cell or the addition of a factor from said reprogramming media to said nucleus or chromatin mass, thereby forming a reprogrammed cell.

4. A cell produced using the method of claim 1, 2, or 3, wherein said cell expresses a combination of two or more endogenous mRNA molecules or endogenous proteins that is not expressed in a naturally-occurring cell.

5. A cell that expresses a T-cell receptor or IL-2 and one or more fibroblast-specific proteins.

6. A cell that expresses a neurofilament protein and one or more fibroblast-specific proteins.

7. A cell that expresses the neurofilament protein NF200 and is immortalized.

8. A cell that expresses Oct4 or alkaline phosphatase and one or more fibroblast-specific proteins.

9. A cell that expresses one or more fibroblast-specific proteins and grows in aggregates, forms colonies, or forms embryoid bodies.

10. A method of treating or preventing a disease, disorder, or condition in a mammal, said method comprising the steps of:

(a) incubating a nucleus from a donor cell with a reprogramming media under conditions that allow the removal of a factor from said nucleus or the addition of a factor from said reprogramming media to said nucleus;

(b) inserting said nucleus or a chromatin mass formed from said nucleus into a recipient cell or cytoplast, thereby forming a reprogrammed cell; and

(d) administering said reprogrammed cell to a mammal in need of said cell type.

11. A method of treating or preventing a disease, disorder, or condition in a mammal, said method comprising the steps of:

(a) incubating a chromatin mass from a donor cell with a reprogramming media under conditions that allow the removal of a factor from said chromatin mass or the addition of a factor from said reprogramming media to said chromatin mass;

(b) inserting said chromatin mass or a nucleus formed from said chromatin mass into a recipient cell or cytoplast, thereby forming a reprogrammed cell; and

(d) administering said reprogrammed cell to a mammal in need of said cell type.

12. A method of treating or preventing a disease, disorder, or condition in a mammal, said method comprising the steps of:

(a) incubating a permeabilized cell with a reprogramming media under conditions that allow the removal of a factor from the nucleus or chromatin mass of said permeabilized cell or the addition of a factor from said reprogramming media to said nucleus or chromatin mass, thereby forming a reprogrammed cell; and

(b) administering said reprogrammed cell to a mammal in need of said cell type.

13. The method of claim 3 or 12, wherein said reprogramming media is an interphase reprogramming media or a mitotic reprogramming media.

14. The method of claim 1 or 10, wherein said nucleus remains membrane-bounded and the chromatin in said nucleus does not condense during incubation with said reprogramming media.

15. The method of claim 1 or 10, wherein a chromatin mass is formed from incubation of said nucleus in said reprogramming media.

16. The method of claim 1 or 10, wherein said chromatin mass is incubated in an interphase reprogramming media under conditions that allow a nucleus to be formed from said chromatin mass and said reformed nucleus is inserted into said recipient cell or said recipient cytoplast.

17. The method of claim 3 or 12, wherein said reprogrammed cell is incubated under conditions that allow the membrane of said reprogrammed cell to reseal.

18. The method of any one of claims 1-3 or 10-12, wherein at least 5 mRNA or protein molecules are expressed in said reprogrammed cell that are not expressed in said donor cell or said permeabilized cell.

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L5	6	"20040068760" or "20020142397" and (streptolysin adj1 O)	US-PGPUB; USPAT; EPO; DERWENT	OR	OFF	2005/01/07 10:27

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